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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,355	12/05/2003	Jon W. Dukes	19790/09003	8256
7590	05/04/2005		EXAMINER	
Craig N. Killen Nelson Mullins Riley & Scarborough P.O. Box 11070 Columbia, SC 29211			ORDERS, CHRISTOPHER H	
			ART UNIT	PAPER NUMBER
			3746	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/729,355		JON W. DUKES ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Christopher H. Orders		3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-29 is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-21 and 25 is/are rejected.
- 7) ☒ Claim(s) 9, 10 and 22-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/23/04, 4/14/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because:
  - There is a reference line in Fig. 1 near the lower numeral "6" which does not have a corresponding reference numeral.
  - The reference numeral "26" in fig. 10 does not point to the valve assembly.
  - The recitation of reference numeral " 69' " in fig. 17 is presumed to be --69-- to correspond with the rest of the drawings and the specification (para. 0054, ln. 8).
  - The lower recitation of reference numeral "16" (fig. 18) lacks the corresponding reference line.
  - The recitation of reference numeral "56" (fig. 18) does not point to the pivot element.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in

the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 29 is objected to because of the following informalities: The recitation of "said pump said such" (ln. 19-20) is presumed to be --said pump such-- for proper clarity. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6-8, 11 and 13-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Francart Jr. (Re. 34,957).

Francart Jr. teaches a gas pressure driven fluid pump, said pump comprising: a pump tank (2) having a liquid inlet (8) and a liquid outlet (9); a float assembly including a buoyant float (46) carried within the interior of said pump tank (2), said float (46) being operable to move between a low level position and a high level position; a compression spring (24) having a first end and a second end, said first end being operatively

connected to said float assembly; a pivot member (20) operatively connected to said second end of said compression spring (24), said pivot member (20) rotating to a first position when said float reaches said high level position and said pivot member rotating to a second position when said float reaches said low level position; and a valve assembly (4) connected to said pivot member (20), said valve assembly (4) being switchable between motive porting and exhaust porting in a snap over fashion due to rotation of said pivot member (20) between said first position and said second position; an anchor (26) located at said second end of said compression spring (24), said anchor (26) having a socket (internal bore) that is engaged by said pivot member (20) (col. 5, ln. 46-49); said pivot member (20) has a tip portion engaging said socket (internal bore) of said anchor (26) (engaged through pivot pin 30); at least one wall protrudes from the periphery of said socket (internal bore) so as to prevent lateral disengagement by said tip portion (the sides of cap 26 engage arms 20b); said float assembly includes a pair of float arms (16) pivotally connected to a stationary support structure (14); a support member (50) extending from each of said float arms (16); said compression spring (24) is positioned between said float arms (16); a magnet (col. 12, ln. 33-35) located within said tank (2); said pivot member (20) rotates between said first position and said second position about a fulcrum (axis A of pin 18) and said valve assembly (4) has a push rod (4d), said push rod (4d) being pivotally connected to said pivot member (20) at a location (pin 34) offset from said fulcrum (axis A of pin 18); said pivot member (20) is dimensioned such that a first distance is defined between said fulcrum (axis A of pin 18) and a distal end of said tip portion of said pivot member (20) is greater than a second

distance defined between said fulcrum (axis A of pin 18) and the pivotal connection (pin 34) between said push rod (4d) and said pivot member (20); rotational movement of said pivot member (20) causes movement of said push rod (4d) about its longitudinal axis; a guide (the bracket through which 4d passes in fig. 1) for controlling the path of said push rod (4d); said valve assembly (4) includes a motive valve (6) connected between said pump tank (2) and a source of motive gas and an exhaust valve (7) connected between said tank (2) and a sink, both said motive valve (6) and said exhaust valve (7) being operatively interconnected such that one will be open while the other is closed; an upper stop (7a abuts 7b) for limiting upward movement of said float assembly from extending beyond said high level position (col. 7, ln. 36-38); a lower stop (holes 23) for limiting downward movement of said float assembly from extending beyond said low level position (col. 7, ln. 36-38); and an anchor (28) located at said first end of said compression spring (24), said anchor (28) having a socket (hole 28) that is engaged by at least one of said float arms (16) (engaged by pin 32).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Francart Jr. (Re. 34,957) in view of Croke et al. (6,503,064).

Francart Jr. teaches many of the claim limitations, but does not expressly teach that said tip portion is formed from tungsten carbide. However, Croke et al. teach the use of tungsten carbide on mechanical parts (col. 6, ln. 40-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the tungsten carbide of Croke et al. with the pivot member tip portion for the benefit of reducing friction (Croke et al. col. 6, ln. 53-56) with the pivot pin. Further, applicant is reminded that the selection of a known material based on its suitability for its intended use is prima facie obvious (MPEP section 2144.07).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Francart Jr. (Re. 34,957) in view of Forde (5,141,644).

Francart Jr. teaches many of the claim limitations, but does not expressly teach that the float is pressurized. However, Forde teaches a float (8) that is pressurized (col. 3, ln. 8-9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the pressurized arrangement of Forde with the float of Francart Jr. for the benefit of meeting buoyancy requirements (Forde col. 3, ln. 10-15).

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Francart Jr. (Re. 34,957) in view of Velan (4,199,850).

Francart Jr. teaches many of the claim limitations including a valve seat, but does not expressly teach that the valve seat is formed from a hardened metallic alloy. However, Velan teaches valve seat (18) formed of a hardened metallic alloy (col. 4, ln. 29-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the hardened metallic alloy of Velan with the valve seat

of Francart Jr. for the benefit of extending the life of the valve (Velan col. 4, ln. 29-30). Further, applicant is reminded that the selection of a known material based on its suitability for its intended use is prima facie obvious (MPEP section 2144.07).

***Allowable Subject Matter***

9. Claims 9, 10 and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claims 26-29 are allowed.

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yumoto (5,934,881) teaches a socketed spring beam that would inherently function as a damper, but Yumoto teaches away from the use of a spring.
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher H. Orders whose telephone number is (571) 272-7163. The examiner can normally be reached on Monday-Friday, 7:30am-4pm.

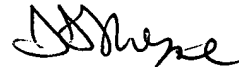
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 3746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHO



**Timothy S. Thorpe**  
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